

The macdonald Journal

JUNE 1971



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THE MACDONALD LASSIE

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Editor: Mark W. Waldron, Ph.D.

Macdonald Reports:

ordon Thomson

Associate Editor: Tom Pickup

Family Farm, Office of Information,
Quebec Dept. of Agriculture

and Colonization

Advertising Manager: Hib Saunders

Production-Circulation:

rothy Parsons

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JOURNAL JOTTINGS

I have a thing about brown eggs.
As a child, I didn't know that white
eggs existed; it is a certainty that
they were not to be found among
the daily offerings that I collected
from those plump, motherly
plymouth Rocks in the hen house.
Now I don't want to start another
chicken and egg war — one's
enough. Suffice to say that if I ever
do have occasion to buy brown
eggs, the few cents extra that
I have to pay is well worth that
special taste I'm sure can only
come from a brown egg!

It isn't brown eggs, it's brown
rice, wholewheat bread or butter-
milk or yoghurt — every one of us
has our own peculiar hang up
about a certain food product but
there is a growing number of peo-
ple who are becoming increasingly
concerned about all the foods they
consume. Concern about pollution,
concern about ecology, about
chemicals, about health has mush-
roomed into a new and growing
cult of health food or natural food
enthusiasts. Not having joined

the group as yet, I don't know
whether it makes for good eating
but it certainly makes for good,
provocative reading. And one of the
best articles I have read to date
was prepared primarily for a
seminar by a fifth year Food
Science student here at Macdonald
and later condensed into article
form for the Journal. Miss Mor-
row's approach to the subject of
natural foods is thorough, honest
and fair. She does not condemn nor
condone; she does, however,
emphatically ask for further re-
search and study on the entire
subject and she asks too that
dietitians, food scientists and other
nutritionists make themselves
heard not only in scientific journals
but in the mass media. The food
we eat is vital to our well being;
she wants to be sure that the right
people are telling us what we
should serve for dinner. I hope
brown eggs are on the menu!

In planning future issues we have
always taken for granted the fact
that Walker Riley's name would
appear on the list. For two very
good reasons. First, as a professor

in the Agronomy Department, he
was a natural to call upon to inform
our readers of developments in his
field. And second, as a former
editor of the Journal, he is one
of its staunchest supporters,
critics and best writers.

His article on crownvetch
should be of special interest to
farmers with poor soil, to wildlife
conservationists, and to Depart-
ments of Highways. Instead of the
vast expanse of muddy banks that
border so many of our new, and
not-so-new, highways, wouldn't
it be wonderful to travel alongside
masses of pink and purple flowers.
When we asked Walker for an
article for the June issue, he wil-
lingly said yes despite the fact that
he was frantically busy preparing
for a year's sabbatical leave for
further study. Our wishes for a
good year go with him as well as
our thanks for this article and for
all his support in the past. I think
that right now we'll schedule him
for an article for the September '72
issue. How's that for an advance
deadline, Walker?

Hazel M. Clarke

The Coming Ad-Hocracy in Agriculture?

Canada's agricultural community has two overriding problems: the need to be competitive in the market place, at home and abroad, and the need to lighten the load of poverty which is the lot of nearly a quarter of the nation's farmers.

The opening paragraph of the most recent Science Council of Canada Report No. 12 entitled "Two Blades of Grass: The Challenge Facing Agriculture" sets the pace for a hard hitting look ahead at Canadian agriculture with emphasis on the agricultural research establishment. The Report, in fact, emphasizes what has been said in Macdonald Journal editorials for the past couple of years. Those editorials have suggested that there was an increasingly urgent need for national coordination of financing, planning and directing agricultural research. Suggestions had been made to establish a National Agricultural Research Committee with representatives from farm groups, government, industry, and universities. Criticisms had been levelled at the bumbling non-applied Canada Department of Agriculture research program which seemed to be so remote from solving the problems of Canadian agriculture. Hopes had also been expressed for improved communication between the Federal research types and the provincial based extension types. After all that — it was reassuring to read the Science Council Report recommendations which supported the previous Journal editorials.

At the time the editorials were written, I received letters and phone calls that were all trying to set me straight on the great contributions of the agricultural research program of the Federal government. One letter even told me that it was suspected that I had never visited an Experimental Farm and consequently didn't know what I was talking about. I reminded the writer that I had visited such farms in Charlottetown, Kentville, Fredericton, Lennoxville, L'Assomption, Ottawa, Harrow, Vineland, Delhi, Brandon, Morden, Winnipeg, Saskatoon, Lethbridge, Lacombe, Kamloops, and Summerland. Furthermore, I had worked at three of the Experimental Farms.

But all that is in the past. Fortunately the future looks brighter. It will look much brighter if the following recommendations of the Science Report provide the basis for research and development in agriculture:

- An "Agricultural Research Coordinating Council" should be established with a permanent secretariat;
- the present distribution of institutes and stations should be used as a starting point for "research centres";
- contracts should be made by the ARCC with existing research groups at universities and elsewhere;

- a progressive program to eliminate or adjust present Research Branch programs should be implemented;
- there should be closer liaison with provincial government extension programs;
- agreements should be drawn up with universities to spell out the relationship of each research centre to surrounding universities;
- provincially supported research should be integrated into the research programs of "centres" in that particular province;
- the Agricultural Research Coordinating Council should be responsible for the allocation of funds to all federal government agricultural research and should also become the principal source of contract funding for university and industrial research in agriculture.

If all the recommendations are implemented then we might approach the day when problem solving is accomplished by an interdisciplinary research team with a common goal of finding answers. Alvin Toffler in "Future Shock" predicts that this type of ad-hocracy will not only replace bureaucracies but will become an integral part of society. As such, the Science Council Report presents a plan for coping with "future shock" in agricultural research in Canada. When that day comes maybe farmers will even be able to get financial support for doing their own research on their own farms!

Mark W. Waldron



Buckwheat

"Tempest" was licensed in March, 1971. This variety is especially suited to southern Manitoba.

Generally, buckwheat is not a very productive crop. Average yields range from 25 to 30 bushels per acre. This low productivity is due to two things — a dearth of well adapted, high yielding varieties, and insufficient knowledge of proper management practices. The solution to the problem of buckwheat production involves a long range breeding program to develop improved varieties and a relatively short term program to study management factors. It is for the latter purpose that a research program on buckwheat was started at Macdonald College in 1967.

To meet the demands of prime foreign markets for buckwheat it is necessary that the crop be harvested by mid-September. This is well ahead of the traditional harvesting period, which is during October, after frost has killed the plants. If harvesting is to be done early what problems are likely to arise in handling the crop at harvest time? What effect will early harvesting have on grain yield? When will the crop have to be planted? These are some of the questions that the Macdonald College research program is designed to answer. In addition, some attention has been given to rates of seeding and to the effects of fertilizer application.

Buckwheat has an "indeterminate" habit of growth. The crop begins flowering a month to six weeks after seeding and new flowers continue to develop until a fall frost occurs. Thus, a buckwheat plant may contain mature seeds, partially developed seeds and flowers, all at the same time. In addition, the leaves and stems stay green and succulent until killed by frost. Combines or other grain harvesting equipment are not designed to handle green, succulent crops.

Harvesting a buckwheat crop before frost killing, that is, in early September, is virtually impossible with currently available equipment. What, then, is the solution? One solution may be to apply a dessicant to the crop before attempting to harvest it. Such chemicals are used on clover, cotton and potatoes, for example, but have not been tried commercially on buckwheat. These chemicals dry up the leafy plants, having an effect similar to that of frost. Preliminary experiments were conducted in 1970 using "Diquat" on both standing and swathed buckwheat. While the chemical dried up the plants it also induced excessive seed shattering and loss, as shown by the following data:

Treatment		Grain yield (bu./acre)
Standing crop	— untreated Control.....	23
Standing crop	— Diquat at 1 pt./acre in 25 gal. water.....	21
Standing crop	— Diquat at 2 pt./acre in 25 gal. water.....	20
Swathed crop	— untreated control.....	20
Swathed crop	— Diquat at 1 pt./acre in 25 gal. water.....	19
Swathed crop	— Diquat at 2 pt./acre in 25 gal. water.....	19

It will be necessary to explore this idea further to determine the feasibility of using other dessicating or defoliating chemicals.

Other experiments were carried out to determine the effect of early harvesting on yield. Results indicated that buckwheat could be harvested over a relatively long period of time without significantly affecting yield. A buckwheat crop seeded in late May, for example, could be harvested anytime after mid-August, if mechanical problems of handling the material could be solved. Similarly, material seeded during the latter part of June could be harvested anytime during September.

The ideal time for seeding buckwheat has not been determined absolutely, despite three years of trials. Plantings were made at approximately weekly intervals from early May to early July. Over the three-year period highest yields have been obtained from mid-late May seeding, with a second peak from mid-June seeding, although in one year mid-June seeding gave the best results. Either period could be recommended. Yields were invariably lower from July seeding, as well as from early or late June seedings. The following data give an indication of the results obtained:

Buckwheat is adversely affected by periods of high temperature during the peak flowering period and this can reduce grain yield. Since it is impossible to predict the periods of unfavourable environmental conditions, it is impossible to select the ideal seeding date.

Rate of seeding experiments were conducted at both Macdonald College and St. Hyacinthe over a two-year period. Plantings were made at 30, 45 and 60 pounds per acre. While yield differences among the planting rates were not significant, the 45-pound rate tended to give the highest yields, and so is generally recommended.

Some experimentation has been done with fertilizers for buckwheat, but results have been variable from season to season and further research is required. On the basis of trials to date it appears that buckwheat does not respond well to fertilizer applications. On fertile soils or on soils to which heavy amounts of fertilizers have been applied, the plants produce excessive leaf and stem growth at the expense of grain production, resulting in low grain yields. This phenomenon has been particularly evident where fertilizers high in nitrogen have been used.

To sum up — What we know to date:

Buckwheat seeding should be done in mid-late May or mid-June.

A seeding rate of approximately 45 pounds per acre appears optimum.

While it is desirable to harvest the crop in late August or early September, mechanical problems may delay harvesting operations until a killing frost has occurred.

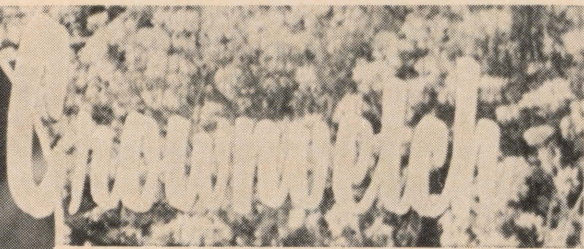
Yields from late August or early September harvesting can be expected to equal those from October harvesting, provided seeding is done before July.

Only two licensed varieties of common buckwheat are available in Canada at present — Tokyo and Tempest. Only Tokyo is recommended in Quebec. Commercial, non-pedigreed seed lots of buckwheat are likely to be variable.

If buckwheat is to become a major crop for export, more productive varieties must be made available and further research must be carried out to solve production management problems and increase productivity. When this has been achieved buckwheat will no longer be an "emergency" crop.

Prof. H. R. Klinck,
Agronomy Department.

Approximate seeding date	Grain yield — 3 yr. ave. (bu/acre)
May 12	21
May 22	23
May 28	18
June 3	16
June 10	19
June 15	17
June 22	17
June 26	15
July 2	15
July 8	16



and a seeding rate of ten to thirty pounds per acre, that adds up to a prohibitive seed bill. On top of that, establishment is erratic and slow. But once it has taken hold, it is there to stay. Crownvetch is productive, attractive, permanent.

If you have travelled south of the border in summer through Pennsylvania and some of the northeast States, and your eye has been caught by the beautiful pink and purple flowered banksides, you have seen Crownvetch. In fact, this plant is not a true vetch, but it is a legume, like peas and clover and alfalfa and vetch, and, therefore, able to look after its own nitrogen needs. The stems are coarse, two to five feet long, but because they are reclining, the crop is a dense mass about two feet deep. The name comes from the characteristic shaped flowers.

On rough-land pastures, a new legume is needed to assist Birds-foot Trefoil. Trefoil is doing a tremendous job on an estimated 1,000,000 acres in Ontario, and a lesser area in Quebec. But there is an equal area of shallow soil over bedrock, and soil that is droughty, where trefoil just does not perform well. With the increasing demand for beef, and for the calves that grow into beef, it may not be many years until that fourth-, fifth- and sixth-class land is valuable once again as pasture.

As a seed crop, Crownvetch has real possibilities if you are a bit of a magician. At the end of the rainbow is 200 pounds of seed or more, worth \$4 to \$8 a pound. But the trick, as with trefoil, is to get it into the bag; the seed is there if you can devise a way to capture it.

Seed is set from mid-June to late August. The vegetation is dense and hard to dry. The seed pods break and shatter easily. It needs plenty of enthusiastic bees for pollination.

One variety, Penngift, is licensed for sale in Canada. This variety gets its curious name from the owner of the farm, Robert Gift, in Pennsylvania where a single plant was found growing about 1905. It had come in as an impurity in alfalfa seed from Central Europe.

At Macdonald College, in the Department of Agronomy, Crownvetch has been grown in observation plots for years. The basic material is at hand to quickly select a new variety adapted to Eastern Canada if interest and enthusiasm continue to grow.

Prof. Walker Riley,
Agronomy Department.

Crownvetch may remain a forage curiosity in eastern Canada. Or it may explode in the next few years into an innovator's crop filling specialized needs. Right now, it is being studied on the chance it will fill these needs.

Departments of Highways are still looking for the perfect answer for roadsides; they want a dense, attractive, low-growing plant that needs neither herbicides or mowing. And the men who maintain the hydro and telephone rights-of-way would give anything for a species that would crowd out the brush, and get the anti-herbicide people off their backs. Mining engineers want a living cover to hide their piles of waste. Wildlife people are asking for a long-lived legume they can seed on waste land for deer pastures. Farmers also want a good productive pasture legume to fill the gap left by trefoil on shallow, droughty soils.

Crownvetch may be the answer to all these. The main disadvantage is that seed is scarce and very expensive. At five dollars a pound,

The "Health Foods" — "Natural Foods"

Dilemma

(A summary of a seminar presented by Miss Suzanne Morrow, Food Science V, Macdonald College. References, in the order used for this presentation, are to be found at the end of this article.)

It's early Thursday evening and Bob and Carol, hurrying to be on time for the early show at the movies, are sitting down for their evening meal of sausages, instant mashed potatoes and canned green beans, accompanied by a tossed salad and bottled dressing. Dessert will be baked cherry pie purchased ready to eat from the local grocery store, topped with instant synthetic whipped cream, and served with instant coffee, piping hot.

Meanwhile, across the street, Ted and Alice, good friends of Bob and Carol, are also planning to see the same show and have also dined early. They have just completed their main course of an organically grown vegetable soybean casserole, barley bread, and an organic lettuce wedge with yoghurt dressing, and are about to begin their dessert of baked wholegrain berry pudding.

Obviously each meal plan just illustrated is an over-simplification and exaggeration, but stop and think. Perhaps each is more common than we realize. But why examine such eating patterns? Are they good, bad, inferior? The two different menus are used to provide a framework for a discussion on "health foods." The question lies not in whether "health foods" are good for you, but rather are they necessary. The purpose is to present this subject from two points of view, bringing the claims and thoughts, for and against, into

perspective. There is no intention, however, of solving any personal dilemmas you may have regarding your individual beliefs or food habits. Your opinion of "health foods" may be fixed or inflexible, but whichever, the topic is in need of a non-prejudicial airing.

Recent reports and surveys done in North America have indicated that affluent Americans are abundantly fed, yet their diets are not the best nutritionally. The number of people with cancer, strokes, heart disease, and diabetes is rising. The United States has more physicians per capita, uses more synthetic drugs, has the highest medical bills, and the best educational research work, yet the physical well being and good health of large numbers remain below a desirable level. This has been paralleled by a mounting consumption of sweets, refined foods, and soft drinks, and a corresponding decrease in the use of fresh vegetables, whole grain breads, cereals, legumes, and potatoes.

With these and similar statements being made by knowledgeable and respected individuals, concerned primarily with the well being of the populace, and with these statements easily available for all to read, it is only natural that people are going to ask why is this so. Is it because of pollution? Smoking? Drugs? Or is there truly a link to the foods available on the market? For many the answer seems truly related to the foods we eat, and as a result, growing numbers are voicing doubt and distrust, directing it toward their neighbourhood grocer, the supermarket manager,

the processor and supplier, and even the producer of raw materials. For some, though, their advocacy to "natural foods" goes deeper than the foods themselves; they see the crisis in our environment and feel a personal commitment to try and help the situation. Ever since Rachel Carson published her book "Silent Spring", public concern has grown so that the fear of the effects of pesticides, chemical fertilizers and synthetics multiplies as each sweeping statement on pollution is released. Nonetheless, to oppose these people in their choice to follow a "natural food" regimen "would be," to quote from J. Trager, "like opposing fresh air, clear flowing streams, the farmer in the dell, and dew-moistened raspberries."

To adequately consider the subject of "health foods," it is necessary to define the term. "Health food" is a misnomer as it infers a magical fountain of youth, long life, freedom from disease, and never-ending vitality, each of which is quite unlikely. It for this reason that I feel a better term would be "natural food" referring to foods free of added chemicals or synthetics and those with a minimum of processing. It is likely, however, that the title "health food" will continue to represent the subject in everyday usage, simply because the term has been highly publicized and widely used. The term "natural food" will remain a synonym.

The "natural food" idea, in the sense of the term meaning fresh, relatively unprocessed and properly cooked foods is not a fad. The principle behind the idea is to avoid

he intake of foods we really do not need, and the only way to accomplish this is to make a decisive differentiation between the extreme claims made by either side of the "health food" confrontation. A middle of the road approach is better than either extreme. The consumer needs to be informed about the functions of nutrients in the ordinary diet, their requirements and limitations. The dangers of misuse of nutritional information to a naive public, ranges from the possibility of severe nutritional deficiencies due to lack of a balanced nutrient intake, to extremely hazardous hypervitaminosis.

Dr. Jean Sabry, associate professor in the department of consumer studies at Guelph, has stated, "if 'health food' addicts become hooked on one type of food, brown rice for example, to the exclusion of others from their daily diet, their total diet would be deficient in nutrients needed by the body daily."

For many, it is emotion, not science, that sways them toward "health foods" and it is this fact which helps carry the idea of "health foods" into quackery's backyard. The subject of nutrition is one that has areas of contention, bickering, and disharmony, even among experts and counter-claims are in acute conflict. This confusion only helps the propagandists. Though lacking a general understanding of the specific function or role of nutrients, the consumer has heard the names of the vitamins and minerals so frequently in the last 20 years that their attachment to a particular food product seems "right" and sufficiently convincing to encourage purchase of the item as a superior product. Obviously then, here is a chance for "Big Business" to move in and, by broad, generalized convincing, but not necessarily verified statement, persuade the public of a need for purchasing a certain food item because it has a particular nutrient that can be tied to some human need. For example, to increase vitamin E in the diet for fertility or the necessity for a high niacin intake to control schizophrenia. Unfortunately, too, those seeking relief from definite disorders, and the psychosomatics, fall victim to these tactics. According to W.H. Sebrell, "Detrimental effects of this type of food faddism on public

health is primarily the destruction of confidence in what can actually be accomplished by sound nutritional practices, leading people to ignore nutritional advice because they have been deceived by exaggerated claims." Science is slow to accumulate, evaluate and then publish facts or findings, and when it does, the article is published in journals not accessible to the public so they go unnoticed while science postulates — pseudoscience concludes and profitably converts hundreds with its sweeping claims. To cite one example, in her book "Let's Eat Right to Keep Fit," Adelle Davis discusses the B-vitamin, inositol, and says that "when animals are put on a diet lacking inositol, their hair falls out; when the vitamin is reintroduced into the diet of those animals, their hair grows in again." She does not predict that a diet high in inositol or supplements of inositol will keep a man from going bald, she fails to emphasize that this experiment was done with animals only and does not describe conditions or procedures under which the experiment was performed. Later, after citing the success of some incidences in which she recommended a teaspoon of inositol daily with one quart of fortified milk she does concede that heredity factors also influence hair growth. Nonetheless, people, especially men uncomfortable about their baldness, will cling to a thread, and it is obvious how statements put forth in such a way will incite them to try the product.

The response to the "health food" viewpoint is not waning. More and more literature is published advocating this vitamin or that tea for relief of this symptom or that discomfort. Barbara Cartland, an English writer and author of more than 120 books, given the title of "high priestess" of the whole "health food" business by her "health food" counterparts, states publically, "I take an enormous number of vitamins, so does my mother. She's 93 and terribly well — still driving and everything. It's entirely due to vitamins." Her whole proposition is out of focus. She accepts the addition of synthetically produced chemicals (vitamins) while claiming that people are getting far too many chemicals in their food, and if they don't have enough vitamins the chemicals get the upper hand.

The importance between understanding the difference between "health foods" and "natural foods" is critical to good understanding of the problem but a definition does not answer questions concerning the benefits or necessity of eating "natural foods." People really want to do what is best for themselves and are requesting factual, easily understood information to help them in their decisions concerning food choice. It is difficult, however, when so many seemingly authoritative statements are being made, often contradicting one another. Who is correct?

Official and factual information must be unbiased, well documented, truthful, and up-to-date. It must be made much more accessible through better use of both the radio and television media, and through publications such as newspapers and magazines. Governmental agencies such as the Food and Drug should not bear all the responsibility. Dietitians and those closely related to nutrition education must find answers and clarify for the consumer the situation as it is developing day-to-day.

Recently, much information has been published and publicly discussed on the topic of food enrichment and the effectiveness or need for such practices. J. Rodale describes enriched bread thus: "First they take a perfectly good grain of wheat and remove all the vitamins and minerals. Then they start out with raw starch and put back into it three little dead vitamins (synthetic): niacin, riboflavin, and thiamin, plus inorganic iron. These synthetic vitamins are a part of the vitamin B complex, but the natural source (wheat germ is one of the best) contains 20 known parts besides the still unknown factors."

Dr. Roger J. Williams, a University of Texas nutritionist, has been quoted as saying "Enriched bread and products, whether they be bakery goods or cereal breakfast foods, for example, are nutritionally far below what scientific advance should demand." He states in a brief presented to the National Academy of Sciences on October 21, 1970, that enrichment practices are 30 years behind the times and certain improvements should be made to update the quality.

Upon reading these and other articles which make claims such as "The inert, non-food 'vitamins' and minerals from inorganic substances and sources with which dry cereals are 'enriched' are entirely inadequate as a substitute for the food values which are removed in processing." (L. Hardy) or "enrichment is a colossal fraud," the consumer begins to question his own food patterns and judgments. He reads other statements such as Dr. R. Lee's "A policy of enrichment provides a realistic means of ensuring that the greatest nutritional benefit is derived from flour." Or C. LeBovitz's comments that "All cereal enrichment programs add about 1/3 more thiamin, 1/5 more iron and niacin, and 1/10 more riboflavin to the nation's diet than would be available if foods were not enriched." These present the opposite point of view on the value of enrichment. It can all be very confusing. Quotes such as "Grains need not be ground fresh daily to preserve their nutrients, — satisfactory whole grain products are available on the market at a reasonable price," (E.A. Martin) and G.P. Larrick's "under national enrichment programs, essential vitamins and minerals are added in scientifically determined amounts to staple foods which are suitable vehicles for these important food components," provide further bewilderment.

The debate concerning the benefits of organically grown or raised products is also a source of confusion. A barrage of statements emphatically stating that the depletion of the soil nutrients due to chemical fertilizers results in produce of inferior quality are countered by such remarks as R. Steiner's "Food grown in soils enriched with green or animal manure are no more nutritious than foods grown in soils to which phosphates, nitrates, or other chemical fertilizers have been added to correct specific soil deficiencies. Without chemical fertilizers which produce high yields of food crops, few families could now afford adequate diets." All add to the dilemma of the concerned individual.

Food processing has also been a target. Do processing techniques really rob food of needed nutrients or are we simply being subjected to exaggerated claims? Consumers

want to know whether modern methods of processing destroy nutrients, whether there is a basis for the changes being made. Many such charges make mention of the food industry's control over their research findings and evaluation of data, claiming that no results are published which could possibly interfere with sales. Other statements imply that "processing depletes, and nutrients are destroyed when foods are processed largely because they are sensitive to the pH, the oxygen used, light or heat, or a combination of these. Vitamin C is lost when citrus is candied, dried, cut, heated and processed in alkaline solutions, while proteins are lost from grains during refining." In retaliation to the previous quote from R. Kirby, there is the following statement that "in general, minerals, carbohydrates, lipids, essential amino acids, vitamins D, K, niacin, riboflavin and pantothenic acid are stable (≥ 85 percent retention) during heat processing and storage and losses in nutritive value of foods may actually be greater during cooking due to leaching of the water soluble vitamins." And so it goes.

A definite relationship between handling and processing and nutrient retention has been shown by numerous experiments. It is essential to remember those nutrients severely affected are sensitive to any type of mishandling; thus the ideal is a minimum of handling with rapid processing to retain the full value of all nutrients present between harvesting time and consumption, remembering that non-processed food suffers deterioration in nutrient quality and is vulnerable to contamination the longer the time period that exists between harvesting and consumption.

What about food additives? Are they dangerous or are the safety boundaries set by Canada's Food & Drug adequate? Who can help but ask this question upon reading this statement made by H.L. Lee, once commissioner of Food & Drug in the United States: "the thing that bugs me is that the people think the F.D.A. is protecting them — it isn't. What the F.D.A. is doing and what the public thinks it is doing are as different as night and day."

In discussing additive tolerance limits set by U.S. Food & Drug, Rachel Carson points out that in determining such levels, additives are fed to experimental animals, and from these tests a maximum level of contamination, less than that which caused symptoms in the animal, is set, which, she believes, fails to consider that the amount consumed by the animal and the human are not parallel, and that the human also consumes further additives from many different sources, creating a total exposure which cannot be measured.

Another claim made by D.S. King and printed in the Congressional Record in 1959, is relevant to a discussion of additives. "The human body can utilize only natural foods as nourishment and survive. Chemicals are not food elements. Therefore, they can produce only negative or harmful effects, even though, by scientific analysis, they are 'non-toxic'."

These statements are biased and of questionable accuracy, but does the public know this? Many housewives do not have a basic knowledge of chemistry; therefore, why should they disbelieve any remark made in an authoritative manner? The qualifications of individuals making such claims must be examined more closely to evaluate the credibility of their claims.

A case can be made when considering the benefits of naturally produced grain products compared with refined grain products. Stone ground flour, or flour milled by the traditional method, retains essentially the same composition as the original grain because the process requires little heat and the flours can retain most of their nutritional value. This form of flour supplies all the nutrients of the natural grain rather than simply those added through enrichment. One must be sure that the flour is whole grain, not whole wheat, as whole wheat flour is usually conventionally milled. Stone ground flours available include rye, whole grain, rice, corn, soy flour and barley. Many of these flours can be obtained in the local supermarkets, though there is a chance they may have undergone some stages of conventional processing procedure.

Brown, unpolished rice is often the subject of "health food" controversies. In this form rice is a good source of the natural vitamin B complex. Polished, refined rice has been depleted in this vitamin and not all marketed polished rice is subsequently enriched. Brown rice can be purchased in the "health food" stores at a cost between 80 and 89 cents a pound. However, known brands of converted rice and unpolished brown rice found in most grocery stores are comparable nutritionally and usually much lower in price.

Oatmeal is another whole grain cereal readily available in the grocery shop — the germ and bran remain when the oats are milled.

Wheat germ is that part of the wheat kernel responsible for sprouting. It is available in both supermarkets or "health stores." The high content of vitamin E in this product is advocated by health food enthusiasts as being necessary in the human diet to prevent heart disease and sterility. This claim is made even though a deficiency of this vitamin is not likely to occur if a normal meal pattern is followed, since it is widely distributed in many plant tissues, and to date no scientific link has been found between vitamin E and fertility in man.

Brewer's yeast is the cheapest form and a good source of the B vitamins. More nutrients are concentrated in yeast than in any other food, and it contains almost

no fat, starch or sugar. Its excellent protein satisfies the appetite. It has been suggested, however, that brewer's yeast be used as a supplement only, and then only if a deficiency is prevalent, as it is hardly recommended as the most efficient or most appetizing way to obtain vitamin B.

Nutritionists confirm that B vitamins are required for complete utilization of food energy, but insist that yeast is not the only good source. Organ meats, whole grain cereals, and bread are other good sources.

Refined sugars are termed "empty calories," by those following a "natural food" regimen offering no nutritive value. Sweetening substitutions are blackstrap molasses, crude sugar or unpasteurized honey. Blackstrap molasses, noted for its high iron, is also a source of the B vitamins, calcium and phosphorous, and is recommended as the sweetener. It is difficult to accept this, however, when statements found in the Encyclopedia of Food define blackstrap molasses "as the poorest, (grade of cane) being the final or exhausted molasses of raw sugar manufacture." Reliable sources also state that blackstrap molasses cannot be advocated as being nutritionally sound, and that though the calcium is high, this is of little importance if milk is taken in required amounts. As the following table shows, average servings of several other foods commonly included in well selected diets, provide as much or

more of the B vitamins and some of these foods also provide additional significant amounts of protein, vitamin A, and ascorbic acid. Thus we ask, is it necessary to advocate its use to the exclusion of other sweetening agents.

Yoghurt, too, is a much publicized "natural food," particularly in the plain form. The excellent protein and combination of minerals in plain yoghurt make it highly nutritious, and some types of bacteria found in certain brands are beneficial to intestinal functioning. It is only absorbed, however, in an acid medium, and added sweetening or flavour agents tend to encourage an alkaline medium in the intestine preventing complete absorption. The chart below which compares yoghurt to buttermilk demonstrates that it is not, contrary to the publicity it gets, unique. Other foods offer similar benefits.

Buttermilk may be more or less appealing in flavour, while yoghurt may be well tolerated or vice versa. As both are reasonably priced and available in most supermarkets, it is simply a matter of personal preference.

A questionable food item getting much publicity is the fertilized egg. According to its advocates, a fertilized egg is alive and holds a "life factor" akin to that found in seeds. This is a natural element that supporters claim makes it nutritionally superior. The same advocates claim that by allowing hens and roosters to run free they

Common Foods That Equal or Excel Blackstrap Molasses in Food Nutrients

Food	Measure	Calories	Protein g	Calcium mg	Iron mg	Vitamin A IU	Thiamin mg	Riboflavin mg	Ascorbic mg
Blackstrap molasses	1 tbsp	45	...	116	2.3	...	0.02	0.04	...
Hamburger	3 oz	245	21	9	2.7	30	0.07	0.02	...
Liver, beef	2 oz	120	13	5	4.4	30,330	0.15	2.25	18
Pot roast	3 oz	245	23	10	2.9	30	0.04	0.18	...
Baked beans	3/4 cup	250	12	129	3.3	105	0.10	0.08	4
Broccoli	1/2 cup	20	3	98	1.0	2550	0.05	0.11	56
Mustard greens	1/2 cup	15	2	154	2.1	5025	0.04	0.13	32
Peas, green	1/2 cup	55	4	18	1.5	575	0.20	0.11	12
Bread, white, enriched	4 slices	240	8	76	2.4	trace	0.24	0.20	trace
Prunes, stewed	5 medium, juice	160	1	21	1.5	733	0.03	0.06	1

From: Nutrition in Action, by E. Martin, 1963 pg. 233.

Buttermilk and Yoghurt Have the Same Food Value

Food	Measure	Calories	Protein g	Calcium mg	Iron mg	Vitamin A IU	Thiamin mg	Riboflavin mg	Ascorbic mg
Yoghurt	1 cup	120	8	295	0.1	170	0.09	0.43	2
Buttermilk	1 cup	110	9	285	0.1	172	0.10	0.44	2

From: Nutrition in Action, 1963 pg. 232.

feed naturally and this can only result in nutritionally superior eggs. Is this factual? Dr. Hawes, of Macdonald College, feels there is no real worthwhile advantage in fertilized eggs. Their high price, rapidity of spoilage and danger from contamination from a partially developed embryo are deterrents to their use.

Dr. Farmer, of the Food Science Department at Macdonald, disagrees with the need for fertilized eggs in the diet, holding that the nutrients present in the non-fertilized eggs are not unlike those of fertilized eggs. The decision is left to the consumer, but one point is relevant here. Fertilized eggs can cost up to \$1.30 a dozen, while non-fertilized eggs can be bought for 50 cents a dozen.

The list of foods available to the individual wishing to change his or her pattern of eating towards a more natural regimen is quite long. Rose hips, the fruit of the rose after the petals have fallen, are recommended as a high source of vitamin C, containing anywhere from 10-100 times more than any known food, as well as vitamins A, E, K, B-complex, phosphorous, calcium, and iron. However, it is easier to obtain vitamin C from citrus fruits, broccoli, cabbage, Brussels sprouts, cauliflower, green pepper, tomatoes, and strawberries than to home process the rose hips into an edible form.

Bone meal, ground as fine as flour and taken with water or milk or in soups, is a source of minerals and fluoride; apple cider vinegar, to help maintain the level of potassium is also on the recommended list even though potassium is widely distributed in foods, especially in meat and bananas, and a diet deficient in this mineral is not very likely. Potassium is necessary for muscle contraction, heart rhythm regulation, and nerve impulse conduction. It is an essential element, but one must remember that dangerously high levels can adversely affect the bodily functions.

Generalised but non supported statements are made for seeds such as sunflowers, pumpkin, and sesame and nuts. They are recommended as excellent sources of protein. They should be consumed unroasted and unsalted as pro-

cessing reduces the "life force" and renders them fattening. The fat in nuts is not to be confused with animal fats, as the fat in nuts is in the emulsified state, easily digested. It is well to remember that the caloric value of fat is the same for animal or vegetable source fats and the question of digestion is related to more than the source of the fat.

Expense and inconvenience are major factors in the life of a "natural food" enthusiast; however, the number of those changing their eating habits toward this way of thinking has increased. People are obviously willing to pay the price. There are over 400 "health food" shops across Canada and no less than 31 in Montreal as of September 1970.

To quote G.P. Larrick "Food chemicals are here to stay. The population of North America and the world certainly cannot be fed today without the use of chemical aids in planting, growing, harvesting, and processing crops." The alternative then seems to be to encourage the continued questioning of amounts and types of such chemicals used.

People now are asking just how safe is it to eat foods subjected to additives and herbicides or pesticides. From an ecologist's point of view, reversal of food production practices from present day artificial means, to natural, organic ideas is the answer needed. That is, produce raised solely by natural means without insecticides, chemical fertilizers, and synthetics. Theoretically, the plan sounds sensible; however, it is an extremely difficult project to put into effect. Farmers lack the finances, know-how, and will to undertake such an endeavour. They are not ready to suffer low yields and profits, no matter how temporary. No government subsidies exist for those not using pesticides, and this, too, is a factor.

To summarize, to decide whether "health foods" are necessary we begin with what the public knows and help it make sound decisions. By stressing the benefits of choosing the foods available wisely, explaining the variety of foods, avoiding over processed foods as far as possible, and reading labels, perhaps we can improve the nutri-

tional conditions among the populace in such a way that they do not feel the necessity to reject that which they are accustomed to, and turn to a drastic regimen of "natural foods" which are often inconvenient to obtain, may require more time and effort to formulate into a balanced meal plan simply because of the unfamiliarity, and can be expensive.

References

- Kirby, R. 1970. Nutrient Depletion in Food Processing. *Natural Food and Farming* 17:25.
- Trager, J. 1971. Health Foods: Why and Why not? *Vogue* 157:122.
- Golstein, J., M.C. Goldman (editors) 1970. *Guide to Organic Foods Shopping and Organic Living*. Rodale Press, Emmaus, Penna.
- Norman, N.P. Constructive Meal Planning. *Applied Nutrition* :65.
- Sebrell, W.H. 1954. Food Faddism and Public Health. *Fed. Proc.* 13:780.
- Beeuwkes, A.M. 1954. Food Faddism and the Consumer. *Fed. Proc.* 13:785.
- Davis, A. 1970. Let's Eat Right To Keep Fit. *The New American Library*, Toronto.
- Hart-Davis, D. 1970. Good Health Worth £15 Million a Year. *Magazine* article, source unknown.
- Rodale, J.I. 1967. *The Complete Book of Food and Nutrition*. Rodale Books Inc., Emmaus, Pennsylvania.
- Ramsey, P. 1971. Health Foods, Sense or Non-sense? *Chatelaine* 44:36.
- Williams, R.J. 1970. Should the Science-based Food Industry be Expected to Advance? From a paper presented to the National Academy of Sciences, Oct. 1970.
- Harris, R.S. 1968. Attitudes and Approaches to Supplementation of Foods with Nutrients. *Journal of Agr. & Food Chem.* 16:149.
- Hardy, L. 1970. Those Dry Cereals. *Natural Food and Farming* 17:29.
- Anonymous. 1949. News letter of the Academy of Applied Nutrition.
- Lee, Dr. R. The Battlefront for Better Nutrition. *From The Interpreter*. July, 1950.
- LeBoviv, C. 1968. U.S. Diets and Enrichment. *Journal of Agr. and Food Chem.* 16:149.
- Martin, E.A. 1963. *Nutrition in Action*. Holt, Rinehart, and Winston, Toronto.
- Larrick, G.P. 1961. Nutritional Adequacy of Our Food Supply. *J.A.D.A.* 39:117.
- Steiner, R. 1971. As quoted in 'Health Foods: Why and Why Not?' *Vogue* 157:122.
- Furia, T.E. (editor) 1968. *Handbook of Food Additives*. Chem. Rubber Co., Ohio. pg. 116.
- Carson, R. 1962. *Silent Spring*. Fawcett Publications Inc., Conn. pg. 164.
- King, Hon. D.S. 1959. *Health of American People*. Congressional Record.
- Encyclopedia of Foods 1923*. Atreman Ward-publisher, N.Y.
- Hittleman, R. 1970. *Yoga Natural Foods Cookbook*. Bantam Books Inc., N.Y.

The Family

Farm

Published in the interests
of the farmers of the province
by the Quebec Department of
Agriculture and Colonization

Agricultural Policy for the 70's

Optimize the economic impact of agriculture from the producer to the consumer's table" is the theme under which the Minister of Agriculture and Colonization of the Province of Quebec, Mr. Normand Toupin, ranges the new programs developed by his department. According to the Minister, "this new agriculture policy is expressed in a series of bold and aggressive measures conceived in accordance with an entirely new concept of the use of the funds allotted to the department."

The new programs . . .

Consolidation of pasteurization plants; contributory animal health insurance; promotion of artificial insemination; promotion of the cattle, swine and sheep industries; starting of new plant productions; development of market-gardening and fruit growing in the Montreal plain, and agricultural reorganization in the northwest Quebec and Saguenay-Lake St. John regions.

Assistance programs to consolidate Quebec's pasteurization plants . . .

This program is intended to regroup the present pasteurization plants into a number of regional units, provided with modern equipment and assured of a sufficient volume of supplies of raw material to guarantee their profitability.

Such a program should ensure adequate protection to some 5,000 producers of raw milk whose

security of income depends on the stability of the plants to which they deliver their production.

To encourage the merger, the Department offers a choice of incentive measures in the form of subsidies or grants to amalgamating plants.

Contributory animal health insurance . . .

This shared-cost program is intended to make veterinary services more available and to reduce the cost of medicaments to breeders of cattle, pigs, sheep, poultry and fur-bearing animals.

It calls for encouragement of the establishment of veterinary doctors in outlying regions.

It offers compensation to the farmers who suffer losses of cattle or sheep from acute disease or specified accidents.

This program also calls for a joint provincial-federal plan of compensation to farmers for losses caused by rabies.

Promotion of artificial insemination . . .

This assistance program is designed to pay a portion of the costs of first matings of dairy and beef cows on condition that the semen comes from the Artificial Insemination Centre of the Province of Quebec.

It offers, besides, an inducement of \$3 for each first mating brought about with semen from a young bull submitted to the progeny testing program.

Promotion program for cattle, pig and sheep production . . .

Access to a testing program at the farm or at a test station to find the rate of gain of sires.

Special assistance to breeders in the less favoured zones for the purchase of tested bulls.

Assistance towards the purchase of ewe-lambs and rams recommended by the Department's Livestock Improvement Service and of rams tested at one of the two ROP stations.

Reimbursement to sheep breeders of veterinary fees for three inspections during the course of the year and premium for slaughtering in the case of contagious diseases.

ROP testing program at the Provincial Station or at the farm.

Reimbursing breeders of pigs for the cost of six inspections during the year by a veterinarian.

Premium for slaughtering or isolation in the case of certain diseases.

Premium for delivery, by Caesarian operation, of piglets from sows selected in advance.

Subsidy to slaughter house for the purchase and shipping to the laboratory of the head and lungs of each animal to be examined under the present program.

Program for the introduction of new plant productions . . .

Research now places within reach of Quebec farmers some interesting

alternatives to the traditional growing of barley and oats. The Department has, therefore, decided to prepare a realistic program to introduce the growing of spring wheat, rapeseed and soybeans.

Program for the development of market-gardening and fruit growing in the Montreal plain . . .

This program is designed to encourage an appreciable increase in the production and distribution of fresh vegetables and to prolong their period of marketability.

It is part of the general plan for the readaptation of agriculture in Quebec and the organization of the peripheral zone of the metropolis.

A well-regulated program of water control and the organization of storing and cooling facilities constitute the basis of the plan for the development of market-gardening and fruit growing.

Program for the agricultural rehabilitation of northwest Quebec and Saguenay-Lake St. John . . .

In Northwest Quebec: Encouragement of beef raising.

Assistance for the development of certain industrial crops, in particular rapeseed.

Continuance of the present policy of subsidies towards the purchase of lime.

Reimbursement of half the participation cost in the dairy herd analysis program of the Province of Quebec.

Assistance towards the transportation of animals to community pastures.

Possibility of secured loans at an interest rate not exceeding 2½ percent, the government absorbing the difference, that is approximately six percent.

In the Lake St. John region: Formulation of a plan for the zoning and alternative use of land unsuitable for agriculture, regrouping of farmlands, improvement of the soil.

Research and training of farmers.

Programs for the consolidation of dairy products factories and the development of the blueberry industry.

Appointments to the Quebec Agricultural Marketing Board

The president of the Quebec Agricultural Marketing Board, Mr. Benoit Lavigne, announces the appointment of Mr. Raynald Ferron, B.A., B.S.A., B. Comm., as egg marketing coordinator to supervise the operations of the egg agency whose functions and powers were defined in the FEDCO (Fédération des producteurs d'oeufs du Québec) regulations.

At present, Mr. Ferron is a special advisor to the Board. For several years he worked for the Coopérative Fédérée de Québec where he was by turns departmental manager, treasurer, and general manager.

Mr. Lavigne has also announced the membership of the prices committee provided for in FEDCO's new marketing regulations, as follows: Messrs Jean-Paul Dubois and Marvin Beltis of the Conseil de l'Alimentation du Québec, Inc; Jacques Frénette, Claude Bernard and Aimé Martin of FEDCO; and Charles Henri of the Quebec egg distributors' Association, Inc. The Board has appointed Mr. Olivier Grigon, who has a favourable reputation in poultry and commercial circles, to be chairman of this important instrument in the operation of the new system of egg marketing in Quebec.

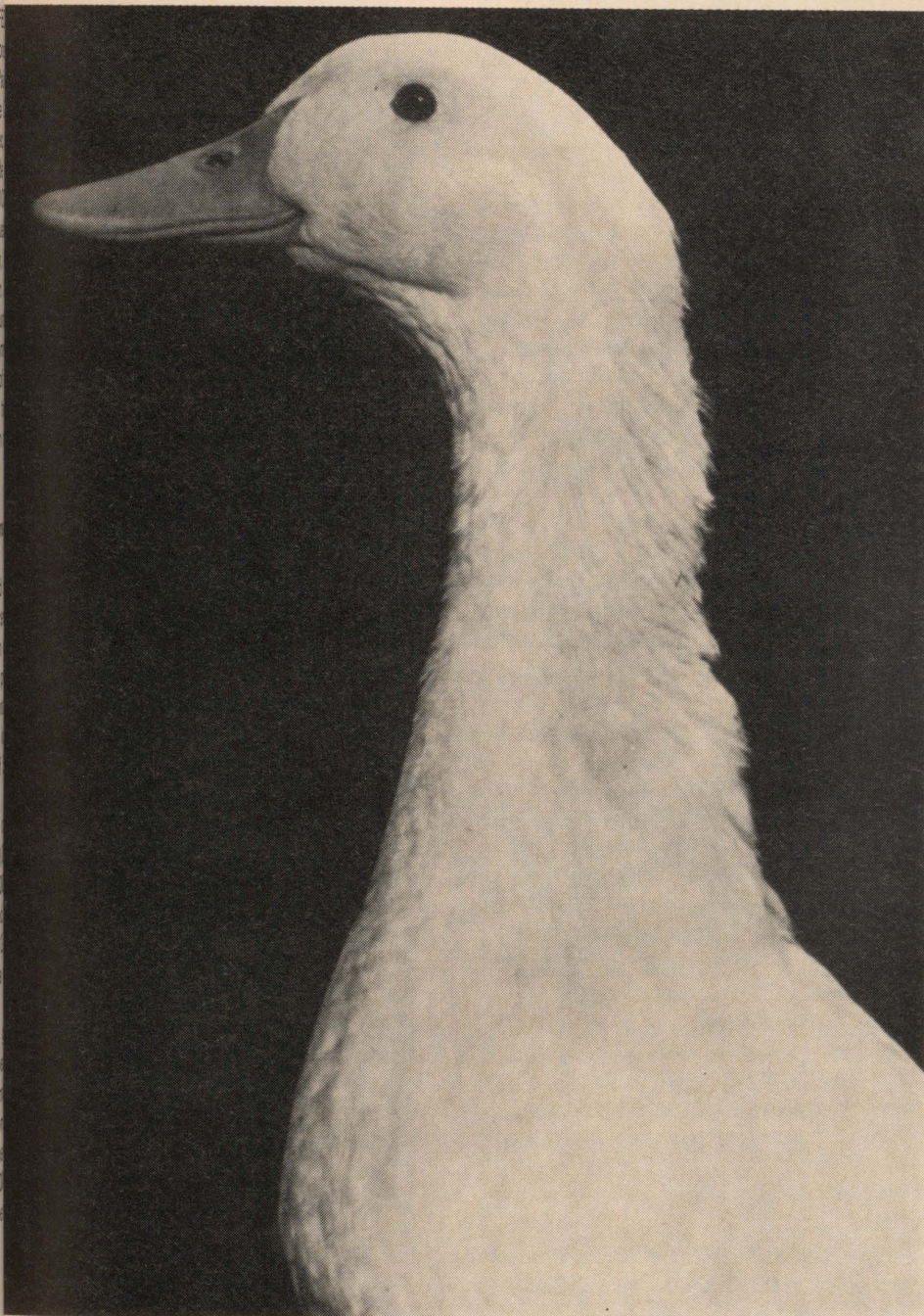
Fewer Hens and Chickens

The number of hens and chickens on Quebec farms on December 1, 1970 showed a reduction of 2.6 per cent compared with the previous year, according to a recent estimate of the number of poultry in Quebec by the Quebec Bureau of Statistics.

The number of hens and chickens was estimated at 19,660,000 in 1970 as against 20,190,000 in 1969. Broiler production showed the biggest decline — from 12,700,000 to 12,200,000 or by half a million.

The numbers of turkeys, geese and ducks in 1970 showed a fairly considerable increase compared with 1969 — turkeys from 1,000,000 to 1,300,000 (a 30 per cent increase), geese from 6,000 to 8,000, and ducks by 8 per cent to 54,000.

Despite the decline in the number of
farms and chickens, according to statistics
the number of ducks on Quebec farms
is increasing.



Subsidy for the Transport of Commercial Fertilizer

The Minister of Agriculture and Colonization, wishing to continue the program of land fertilization, offers Quebec farmers a subsidy for the transport of commercial fertilizers.

Any farmer or farm operator or any farming partnership or corporation, as defined in the Farm Credit Act or regulations, who or which cultivates on his or its own account one or more farms, the operation of which is a paying enterprise or capable of becoming one within three or four years, and of which he or it is owner or tenant may be a beneficiary.

This assistance for transportation applies to all commercial fertilizers which are recommended by the Quebec Plant Productions Council or are prescribed, after soil analysis, to meet the needs of crops and are otherwise scientifically acceptable, the said fertilizers to be distributed by Quebec manufacturers only.

The Department of Agriculture and Colonization will repay shipping charges in excess of \$2 a ton paid by the farmer at rates approved by the Department, up to a limit of five tons per farmer.

Any farmer wishing to take advantage of these benefits must:

1. Carefully complete the application form for the subsidy and attach to it the vendor's authentic, duly receipted bill(s) on which the net purchase price and the shipping costs are shown separately.

2. Send the above-mentioned documents to the Department's local agricultural information office.

Please note that the Department will not accept delivery orders or order forms in place of a receipted bill.

This assistance policy cancels all previous ones and will remain in force until further notice.

Aid for the Use of Agricultural Lime. Transportation Grant

In order to correct the acidity and improve the structure of Quebec soils and increase their productivity, the Department of Agriculture and Colonization offers the following subsidies to promote the use of ground limestone.

The ground limestone must meet the following requirements:

- a) Neutralizing power: at least 85 percent.
- b) Fineness of grinding: 95 percent of the product must pass through a sieve of 10 meshes to the inch; 85 percent of the product must pass through a sieve of 20 meshes to the inch; 50 percent of the product must pass through a sieve of 60 meshes to the inch.
- c) Agricultural value index: an index of not less than 62.5 percent according to this method of evaluation (obtained by correlating the two above-mentioned ratings) as judged by technical standards recognized by the Department of Agriculture and Colonization and determined at the administrative unit.

The ground limestone must be bought from the nearest quarry, failing clear proof that the quarry cannot provide such a product.

Beneficiaries are: Any farmer or farm operator or any farming partnership or corporation, as defined in the Farm Credit Act and regulations, cultivating on his or its own account one or more farms of which he or it is the owner or lessee and which is a paying agricultural enterprise or capable of becoming one within three or four years. 2. All farmers wishing to take advantage of this policy must obtain a user's permit from the Department's local office.

For transport by truck: It will not be necessary for a farmer who wants to transport his ground limestone to obtain a transport permit from the Lime division at Quebec.

To be eligible for the transportation grant, truckers must obtain a written permit from the Lime division at Quebec. This also applies to all truckers who deliver limestone from an unloading point to which it has been shipped by boat or rail. The lime transported must meet the Department's standards of fineness of grinding and neutralizing power.

For transport by rail or boat: The Department of Agriculture and Colonization will pay the entire cost of transport by rail or boat on the following conditions:

1. — Agricultural lime in bags: that the user's permit(s) signed by the farmer and duly authorized by an official of the Department are sent to Quebec. The minimum quantity for which authorization for trans-

port of a carload lot will be issued is 30 tons. The Department has no objection to authorizing shipments of recommended lime to one or more farmers in the same railroad car provided that the unloading point is the same for all of them. The Lime division will return the original and last copy of the user's permit to the farmers to allow them (if eligible) to obtain the transport grant.

2. — Agricultural lime in bulk: truckers wishing to transport agricultural limestone must comply with the same rules as those who get it from quarries, but the document needed to perform this work does not authorize them to get their supplies at other sources. They must, therefore, submit with their claims the original of the user's permit signed by the farmer for the quantities shipped. A trucker who obtains a permit to distribute agricultural limestone may obtain the quantities required of him directly from the quarry. The minimum quantity per carload lot in bulk is 50 tons and must not exceed the maximum loading capacity of the railroad car.

Demurrage and side-tracking charges on carload lots ordered are the responsibility of the trucker. No claim for transport can be accepted unless the railway shipping bill is an integral part of the bill of sale to the farmer(s). The following information must be given on the bill of sale submitted with the claim: a) selling price per ton; b) the signature of the beneficiary farmer; c) the signature of the trucker.

Grant for transport: by rail or boat. After prior agreement with the Department of Agriculture and

Colonization's office at Quebec concerning specified shipping and receiving points, the Department will pay transportation costs directly to railway or shipping companies in accordance with a special tariff allowed by the said companies for the transport of limestone used solely for agricultural purposes.

by truck: The Department will pay a grant on transport from the nearest quarry to the farm at the following rates: \$0.20 per ton for each of the first five miles; \$0.10 per ton for each of the following five miles; and \$0.05 per ton for each of the following 30 miles with load; up to a maximum grant of \$3 per ton for 40 miles. A copy of the purchase permit must accompany the copy of the bill submitted to obtain the transport grant on lime delivered.

For purpose of calculating the subsidizable mileage, the distance is reckoned from the point of distribution to the centre of the parish in which the farmer's land is situated.

Claims must be submitted in duplicate on an official form supplied by the representative of the local agricultural office. To this form must be attached a copy of the purchase permit and the delivery receipt of the quarry, duly completed as regards automatic recording of weighings, the price and the farmer's signature. The quarry bill must also bear on both sides a statement of analysis guaranteeing the quality of the product delivered.

The directors of the service reserve the right to negotiate regarding the basic rate and, taking

into consideration special circumstances in the case of exceptional distances, to grant a supplement or set a fixed rate after assessing the facts and conditions in a given area.

The grant will be paid only on limestone used for immediate application on the land it is intended to improve.

This assistance policy supersedes the preceding one and will remain in force until further notice.

Melchers Distilleries Buys a Million Bushels of Grain Corn

Melchers Distilleries Ltd has just entered into an agreement to buy a million bushels of Quebec-grown grain corn announces Mr. Sarto Marchand, the president and director of the Quebec firm. Growers in the Richelieu agricultural region will supply about 95 per cent of this amount.

The agreements were signed on Melcher's premises at Berthierville in the presence of Quebec minister of Agriculture and Colonization Mr. Normand Toupin, the deputy-minister Mr. Gaétan Lussier, the agricultural coordinator and the field crops specialist for the Richelieu region, Bernard Prieur and Omer Dubois, and Melcher's vice-president of manufacturing operations, Robert J. Thibault.

During a press conference, Mr. Marchand pointed out that Melchers has been buying Quebec corn for the past two years and looked forward to getting all its corn from the province in the very near future. For the period October 1970 to October 1971, the firm has

bought from Quebec about 800,000 bushels, of which they still have 600,000 in storage. To complete their needs for that period, they expect to buy a further 400,000 bushels this spring directly from growers, cooperatives and drying stations. The firm will use the million bushels it has just bought, during the first eight months of the period October 1971 to October 1972. The total amount needed for this latter period will be 1,400,000 bushels and the further 400,000 bushels required will be bought locally in the spring of 1972.

Mr. Marchand added that Melcher's contribution to Quebec's regional agricultural economy during the two above-mentioned twelve-month periods will thus be about four million dollars. He said that the needs of the distillery, which has been operating in the province since 1898, will soon call for the purchase of 1,650,000 bushels of corn a year and the firm expects to buy all of it in Quebec. The nearness of the Quebec growers is a considerable advantage for Melchers since it eliminates the numerous transshipments that imported corn undergoes.

Mr. Prieur, agricultural coordinator for the Richelieu region, said he was very happy about the agreement and that it will mean an additional revenue of \$1,500,000 to the 400 or so Quebec grain-corn growers involved in the deal.

Agreements have already been made between the Melcher's distillery and representatives of six drying stations who will buy the corn from the growers. The corn will be stored in silos at Sorel and Montreal.

QWI

Argenteuil

Arundel: Felt honoured to have Mrs. G. McGibbon, Provincial Past-President, speak on the founding of the W.I. and also tell of her visit to other branches and foreign countries.

Dalesville- Louisa: Members brought maple syrup recipes which will be put together into small booklets for all members. The County President, Miss Hanna Smith, was guest speaker at Frontier's meeting. Jerusalem-Bethany: Guest speaker's topic was pesticides — their use and dangers. Lachute: Had a speaker on cancer. Upper Lachute-East End: Agriculture meeting featured an exchange of plants and slips and two scrambled word contests on farm machinery, animals, and garden flowers.

A Brief Visit with Lakefield

Though Lakefield is one of Argenteuil's smaller Q.W.I. branches, it continues steadfastly after 51 years of learning and service. Since most of the members live near a lake, they are very much aware of water pollution and this is a subject brought up at every meeting. Members are proud of their 1970 project. Concern was felt over a dangerous piece of road over which the school bus had to travel. A letter was sent to the Minister of Roads and now a guard rail has been put in place. Lakefield's only means of raising money is a yearly food sale and raffle of a quilt. The top of this quilt is pieced and donated by a senior member, Miss Emma Kerr, 91 years past. She has recently completed her twentieth quilt top. Miss Kerr is an ardent worker and never misses

a meeting, another of her generation keeping happy and busy. Another well known and active member of Lakefield branch is Mrs. Baugh who has been a member for 36 years and has held an office for all that time and also served in the County W.I. Many will remember Mrs. Baugh's account, in her own inimitable way, of "What W.I. has meant to me" at the County's 50th Convention last year. Mrs. Baugh is always interested in all that goes on around her and ready to give a helping hand for the welfare of others.

Bonaventure

Grand Cascapedia: Discussed buying a new heater for W.I. building. White elephant sale held. New Richmond West: Annual President's dinner held in the Restigouche Hotel. Conveners items were "Danger from sitting too close to coloured T.V.," "How to grow roses" and "How science can affect the weather."

Brome

Abercorn: Held food sale and series of card parties planned. Austin: Donation of \$50 for school fair. Ordered 25-year pins for six members. Life membership and gift of appreciation given to retiring president. Treasurer reported \$832.80 on hand.

Chateauguay-Huntingdon

Aubrey-Riverfield: A paper was read on the care of seedlings and an interesting discussion followed on gardening. A quiz on Canadian apples was conducted by one of the members. Prizes and certificates were given to the winners in the

public speaking contest sponsored by the W.I. in Howick Elementary School. Donated \$5 to the spring Musical Festival in which local schools take part. Money was collected for purchasing articles for Ditty Bags. Dewitville: A course in cake decorating was given where the intricacies of this fine art were taught. A beautifully decorated doll cake, the creation of Mrs. Leslie Rogers, was drawn for and won by Mrs. Jack Mason. The proceeds of a successful home-bake sale are being used to help purchase a pump for flooding the local rink and for fire fighting, should the need arise. Dundee: Three demonstration were enjoyed — making roses from egg cartons, making roses from facial tissue, and making a cross from plastic bread clips. Howick: Mrs. N. V. Homonnay and Mrs. M. Crawford gave talks on and showed samples of natural health foods. Books are available on these foods. Huntingdon: Members were told how citizens can help our Minister of Justice in his efforts, and how we can make our roads safer by observing the rules for safe driving. The members reported on how they had spent their leisure hours during the winter. Mrs. Henry gave an interesting talk on the observance of Easter in her native Austria and demonstrated the colouring of Easter eggs.

Compton

Brookbury: Held meeting with a lovely dinner served at noon. A money donation was received from a winter road committee. One new member joined. Three members had perfect attendance for the year. Bury: Mrs. Fitzsimmons, new President for 1971-72.

sserole supper served to mem-
rs and husbands. Rose bowls
nt to two members in hospital
d a bank account started for
member's new baby. One
nute of silence observed in
spect of departed members,
rs. W. Provis and Mrs. G.
tter. A donation was sent to
mpton County Historical Society.
nveners items: Hints on caring
r African violets; Chronic head-
hes in children; History repeating
elf in past 100 years. Plans
derway for card party in aid of
utters Hospital. Canterbury: Proj-
t for the year is to visit and take
uit to all people in the community
ho are ill or shut-ins. Two new
embers joined, making a total of
\$. Planned a sunshine basket and
gift for a very ill friend in
spital. East Clifton: Poem "50
ears" was read. Celebrated 50th
niversary and had a cake decor-
ed in "GOLD 50's." Two minute
ence held for departed members.
ad supper to aid funds for school
feteria. Memorial donation given
cemetery. Making clothing for
ave the Children Fund. A 1910
ton's catalogue was on display.
rs. Francis Bain had perfect
tendance for the past year.
otstown: Reported annual meet-
g with payment of dues and
annual conveners reports given.
donation voted to help with
penses.

Gaspe

arachois: Conveners items:
ollution" and "Hints on how to
ve at a supermarket." Namely,
op only once a week, mark down
ly necessary articles and look
r bargains on the lower shelves,
stead of those listed near the
eck-out or on shelves at eye
vel. Sister Amy Rooney, principal
d supervisor of the local school
as guest speaker. She explained
w the best source of education
arted in the home. Project of
lping to organize a children's
ayground was discussed.
aspe: A bring and buy sale was
ld with proceeds going to branch
nds. The making and sending in
ine of ditty bags discussed. Plans
ere made to host the annual
eeting in Gaspe. Mrs. Westover
ill be guest speaker. Wakeham:
ll call was name your favourite TV
ogram. The most popular pro-
am proved to be Front Page
hallenge. A life-membership pin

was presented to Mrs. Percy
Miller, a most active member in
agriculture and UNICEF programs.
A food sale among the members
netted \$3.35. Mrs. David Miller,
branch president, attended a meet-
ing held in Shigawake for the
"Gaspesia Cultural Association."

Gatineau

Eardley: Mrs. Percy McKibbin read
a letter of thanks for work done
for the Red Cross. Appointed
delegate to County Convention.
Rupert: This W.I. is 45 years old
and still has three Charter Members.
The 1970 project now completed
was repairs to W.I. Hall. A new
roof was put on and the foundation
repaired. Total cost \$502. Papers
read: "Change or Confusion" and
"A County Ploughing Match."
This was held at the farm of Joe
Nesbitt in 1953. A 40-acre field
was ploughed that day. The W.I.
members catered for both dinner
and supper. Sent the Save the
Children Fund 36 articles of knitting
and sewing, three boxes of fruit
sent to sick members. Wright:
Home Economics Convener gave a
paper on "Tea". Recipes given out
An article on the Status of Women
was read. Mrs. George Derby
new President for 1971-72. Cards
were signed by all present for
members of families who are
hospitalized.

Missisquoi

Cowansville: An extra meeting
was held to map out the new
program. A donation was made to
Save the Children Fund. A visit
from the County President was
much enjoyed. Dunham: Mrs.
Comeau spoke on the new Welfare
Plan which would abolish the
Unit Sanitaire in Farnham and
most of the homes for retarded
children. Mrs. Ruby Moore
showed slides of her trip to
California and some slides of local
interest. Fordyce: Entertained the
County President. Mrs. Monroe
played her guitar, sang songs, and
told of her trip to Japan and South
Africa. Donated \$25 to the Butters
Home and \$10 to the Student Loan
Fund. Letters were received from
Mr. Bourassa and Mr. Glen Brown
concerning the Travelling Library.
Stanbridge East: The County Pres-
ident was a welcome guest. She
spoke of W.I. work in the county
and encouraged the members

to continue with their worth while
projects. An arrangement was
made to send a monthly letter and
gift to a "Forgotten Patient" in
the Douglas Hospital. One member
compiled a scrapbook of material
used over the year in the study of
Quebec. The anniversary of this
group will be celebrated in June.

Megantic

Kinnear's Mills: Bringing the history
of the branch up to date. Gave \$5
to CARE, and forwarded the money
for reading prizes at Andrew
Johnson Memorial High School in
Thetford Mines. Roll Calls:
Inverness — Something I'd try to
change on the local municipal
council, if I were a member. The
main answers were the pollution
laws and the conditions of the local
roads. Kinnear's Mills — Name a
recipe that contains a cereal.
Rolled oats was the most popular.
Programs: Inverness — Each mem-
ber was to show an article made
in a foreign country. Some of these
were ivory beads from Egypt,
an Irish jaunting car, a towel from
Scotland, a towel from England
depicting Windsor Castle, a man's
tie with the McGillivray tartan which
was made in Scotland, a change
holder from the U.S.A. and
chopsticks from China. One mem-
ber read an item on pollution and
an article was read on how to make
a bookmark from plastic clips.
Kinnear's Mills — Mrs. George
Rothney handed in the tea towels
ready for the senior girls in the
county to hem for the school fair.

Montcalm

Rawdon: Annual card party held
in May in aid of Spera Foundation
of Rawdon. Several members make
weekly visits to local hospital
to write letters and visit with the
patients. Have subscribed to the
"Canadian Consumer." Project 71
will be to send gifts to Eski-tots
at Ellesmere Island.

Pontiac

Bristol: The roll call was a hint
for healthful living. The program
for the year was read and discussed.
An article on spending money
was read by a member. Fort
Coulange: The topic for discussion
was "Improvements for our Com-
munity." This brought forth many
worth while suggestions. Stark's

Corners: Guest speaker told of a "Student trip to Russia." Gave \$100 to a family who had lost their house by fire and \$50 was given to a needy family. Voted \$25 to further supply hot lunches for some needy children at McDowell Elementary School. Entertained husbands at a "Pot Luck" supper and social evening. Wyman: Mrs. J. Campbell gave a very interesting reading on the life of Johnny Cash, telling about his terrible drug trouble and how he cured himself and became a great success. Mrs. Faulkner demonstrated on how to reduce and build a healthy body. Plan to help Quyon Calf Club and 4H girls either rent or buy a tent where they may serve their hot dogs and drinks at Quyon Fair.

Quebec

Val Cartier: Shut-ins remembered and thank-you cards read. Slides were shown of Lynn Lake and Fort Chimo. A member told of her trip overseas.

Richmond

Cleveland: Planned for a flower contest. Flowers to be judged in September. Four members, Mrs. K. Stevens, Mrs. C. Johnston, Mrs. R. Healy and Mrs. C. Pease presented with prizes for perfect attendance during the past year. Special prizes at Richmond Fair offered for knitted cushion top. Gore: Reading heard "School yesterday, today and tomorrow." Cake decorating demonstration given. Plant sent to sick member in hospital. Ditty bags handed in. Four members volunteered to put on birthday party at the Wales Home for the month of May. Melbourne Ridge: May meeting to be held at Wales Home with members and former members present. Each member picked a name of a "secret pal" to send birthday and anniversary cards to. Prizes of \$3, \$2, \$1, given for cherry nut bread at Richmond Fair. Pennies for Friendship collected. Nine members had perfect attendance. Silver dollar sent to a member's new baby. Two sunshine baskets sent to members' families. Richmond Hill: A visitor showed how to make rugs out of binder twine, some were dyed and some the natural colour. Had a contest for homemade white bread. First prize was awarded to Mrs. Elmer Mills.

Proceeds given to "Pennies for Friendship." Variety sale to be held in May. Next year prizes will be given for the one or more answering all roll calls. Cups and saucers given three members for perfect attendance. Quilts finished for needy families and one to be drawn for later on. Richmond Young Women: Heard the history of this branch up to the fifteenth year. Catering to county meeting in May. Shipton: Get well cards and gifts sent to two members who were hospitalized. Mrs. Woods read a poem entitled "Times Change" written by Matilda Worby, Cookshire, which pointed out the changes in life and mode of living in the past number of years. Mrs. Gallup asked members to bring in any used cards and stamps to send to Maple-Mount Home, Cookshire. A travelling money apron to be made. A get-well card, in stamped envelope to be given by each member to have for use as needed. A gift is also to be bought for member's daughter who is to be married shortly. Spooner Pond: Discussions held on "Cost of Benson's Silver Dollar", "Vitamins and their value to healthy living." Slips of Coleus or Geranium to be started for contest in the fall. Quilt blocks for abstract quilt to be made up. Silver dollar given to a first grandchild. Sent get-well cards and a plant to a member in memory of her relative, also a gift for a wedding.

Shefford

Granby West: Card party held at Parkview School. One member will donate blood at the Blood Clinic held in Granby. Each month two members will visit elderly people in local home. Waterloo-Warden: An interesting roll call was What is your opinion of young people marrying while attending college and why? Articles Read: "Education," "Radical Changes must be promoted by governments to halt destruction of environment through pollution of water, soil and air," "Prime Minister to visit six European Countries," "Care of garments," and "Care in buying pots and pans." Easter gifts were sent to 11 shut-ins. Gifts given to five members for perfect attendance. Granby Hill: A poem from the "Friendship Book" was read. An interesting contest was held on "Facts you should know about your QW.I."

Sherbrooke

Ascot: Three new members were welcomed at the annual meeting. Mrs. Allan Crawford, Mrs. Dufferin Annesley and Mrs. John Robinson. Luncheon was served by the Ways and Means Committee. Seeds of Jerusalem Cherry were given out to be planted for contest in fall. Mrs. Ashley Hatcher was presented with a gift of jewellery. Belvedere: Highlights of Board meeting were given by Miss E. Smith, Provincial 2nd Vice-President. Donations were made to the Cancer Society, 4H Club and the Cecil Butters Home. Members worked at the Cancer station. Lennoxville: Had samples of sap syrup and vinegar. Heard talk on maple industry and three kinds of maple trees by Agriculture Convener. This being Grandmother's Day, two poems were read, "Get Grandmothers Talking" and "Grandma's Rocker." There were 10 grandmothers present; each was presented with a dainty corsage. Each grandmother gave her first impression of her first grandchild. A hot dish supper was served with a special cake. Milby: Made plans for 40th Anniversary celebration. A new member, Mrs. Roland Chapman, joined. For the roll call each member paid a penny for the years she had been a member of the W.I.

Stanstead

Beebe: Members exchanged slips and bulbs. They heard reports of a successful sugaring-off party, which they plan to make an annual affair. Besides hearing short topics from various conveners, including "Safe and sane gardening" by the Publicity Convener, and "How your clothes reveal your personality," by the Home Economics Convener, they enjoyed a flower quiz. Hatley: Mrs. Frances Taylor, retired National Secretary, spoke on W.I. work in the far north with the Eskimo and Indian Women. Hatley Centre: Visited a clinic recently opened at North Hatley by Dr. Hector McDougal. The doctor met the members at the door, spoke briefly on his reasons for opening the clinic and his plans for the future, then he took them on a tour through his five well-equipped rooms. Stanstead North: Each member brought a card in a stamped envelope for the use of the Sun-



ine Convener. Three were signed
all present to be sent to members
who are ill. The group arranged to
and plants and cards to shut-ins
Easter. After hearing various
short topics by conveners, members
enjoyed a sugaring-off party.

The presidents of the four Institutes in
Missisquoi County; Mrs. Clifford Rhicard,
Mrs. Simon Bidner, Mrs. Bilby and Mrs.
Dryden with the 1st Vice-President of
Q.W.I., Mrs. Edyth Westover; and Mrs.
Ella Brown, daughter of founder,
Mrs. George Beach.

Mrs. Amos Laduke, oldest active member;
Mrs. Myrtle Selby and Mrs. Alyce
Farnam, life members; with the
President, Mrs. Simon Bidner.

the First Women's Institute Quebec

the 60th Anniversary of the
Dunham W.I. — the first Women's
Institute in the Province of
Quebec — was celebrated by a
social gathering on the afternoon of
February 3, 1971, after a bad storm
forced a postponement from the
original date, January 27. The
large number of guests, including
members from Cowansville,
Fordyce, Stanbridge-East, and
Luton, were welcomed by Mrs.
Simon Bidner and Mrs. Elsie
Doherty.

The meeting was held in the
Dunham United Church Hall. The
hall was decorated with streamers
of yellow and blue crepe paper in
the centre of which were the num-
bers "60" in blue. The buffet
table was centred by an Anniver-
sary Cake, made and decorated
by Mrs. Irene Williams. A plant of
yellow Mums was placed behind
the cake and flanked on either side
by a silver candelabra which held
blue and white candles.

Following the address of welcome
by Mrs. S. Bidner, president of
Dunham W.I., the "Opening Ode"
and the "Hymn of All Nations" were
sung by the assembly, accom-

panied by Mrs. Elsie Doherty at
the piano. Corsages of yellow and
blue Baby Mums were presented
to the guests of honour, who were
Mrs. Edyth Westover, 1st Vice-
President of Quebec Women's
Institutes; Mrs. Ella Brown,
daughter of our founder Mrs.
George Beach; Mrs. Amos Laduke,
our oldest active member; Mrs.
Alyce Farnam and Mrs. R. S. Selby,
life-members of the Dunham W.I.;
and Mrs. Simon Bidner, president
of both the Dunham W.I. and the
Missisquoi County W.I. Tribute was
also paid to Mrs. Clarence Martin,
another life member, and Mrs.
Annie Manson, an honorary member
and our oldest citizen, who were
prevented from being present by
illness.

Mrs. Joyce Fernihough, secretary
of Dunham W.I. read messages
and letters of congratulations
received from Mr. Jean-Jacques
Bertrand, MLA for Missisquoi;
provincial officials of the Quebec
W.I.; Stanstead County W.I.,
Lennoxville and Hemmingford W.I.
Four very lovely gifts were
presented to the Dunham W.I. From
the Missisquoi County W.I.,
presented by Mrs. William, an
official gavel; from Cowansville
W.I., presented by Mrs. Bibby,

a sum of money; from Fordyce W.I.,
presented by Mrs. Annie Dryden,
a navy-blue zippered briefcase; and
from Stanbridge-East W.I, presented
by Mrs. Clifford Rhicard, a brown
briefcase.

A skit was presented by members
of the Dunham W.I. re-enacting
the first meeting of the Dunham
W.I. which was held in Best's
Hall in Dunham on January 27,
1911. Those participating were
Mrs. Connie Paul, Mrs. Joyce
Fernihough, Mrs. Esther Harvey,
Mrs. Shirley Vaughan, Mrs. Pat
Doherty and Mrs. Gracia Comeau.

Following the skit, Mrs. Margaret
Ellis gave a most interesting history
of the Dunham W.I. from the time
of its inception to the present
day. In it she paid tribute to the
founder Mrs. George Beach, and
the charter members and mentioned
projects undertaken, such as
school fairs, the lighting of a
community Christmas tree in the
pre-World War II years, the erection
of the cairn to mark the 50th
Anniversary of the first Women's
Institute in Quebec, and the
festivities which were held at the
unveiling in Dunham.

Mrs. Simon Bidner then addressed
the gathering in her capacity as
President of the Missisquoi County
Women's Institutes. She paid
homage to the brave and courageous
women of 60 years ago and
spoke about the challenges of the
past, present and future of the
Women's Institutes and in very
well chosen words urged us to
continue our work, worthy of our

heritage, strengthened by the past, with confidence in the future and true to our Motto "For Home and Country."

Mrs. Westover then spoke a few words, bringing us greetings and congratulations from the Provincial Women's Institutes, and Mrs. Brown expressed her thanks and appreciation for the tribute paid to her mother, the founder of the first Women's Institute, and Mrs. Irene Williams read a poem in tribute to the Dunham W.I.

The president then led the gathering in repeating the Mary Stewart Collect and with the singing of "O Canada" and "God Save the Queen", a most memorable afternoon came to a close.

Refreshments were served and the Anniversary Cake was cut by Mrs. Ella Brown. Tea and coffee were poured by Mrs. Elsie Doherty and Mrs. Simon Bidner. A collection was taken up, the proceeds going in the Pennies for Friendship Fund.

An Unqualified Success

A first in the history of the Quebec Women's Institute took place in Abbotsford, on March 30, 1971, when the Abbotsford W.I. sponsored an evening meeting for all local and area apple growers and interested guests, at the Town Hall, Abbotsford, P.Q. Mrs. Fred Crossfield welcomed the guest speakers, growers and other guests on behalf of the W.I. The featured speaker of the evening was Dr. D. Fisher, head of Pomology at the Summerland Research Station, B.C., who is on loan for one year to the Federal Research Station at St. Jean, P.Q.

Dr. Fisher took us on a guided and illustrated tour of his work at the Summerland Orchards where he is working on the new spur type Delicious and McIntosh trees.

He emphasized the advantages of the fantastic increased production per branch on this new type of tree and showed us how to train the branches to carry the load without breaking. The slides illustrating his talk were most beautiful as well as instructive. This new spur type Mac will soon be available at Ontario and local nurseries. Mr. Benoit Parent of the Research Station at St. Jean gave one of his excellent illustrated talks on the several stages in the life history

of the very important and serious orchard pest — the Red Mite.

The slides showed peak periods of infestation and charts of control materials. Mr. Parent is well named "The Man of the Mighty Red Mite." His research on this pest has been translated into several languages. Mr. R. Granger, also of the Research Station at St. Jean, was the third and last speaker of the evening. He told the growers

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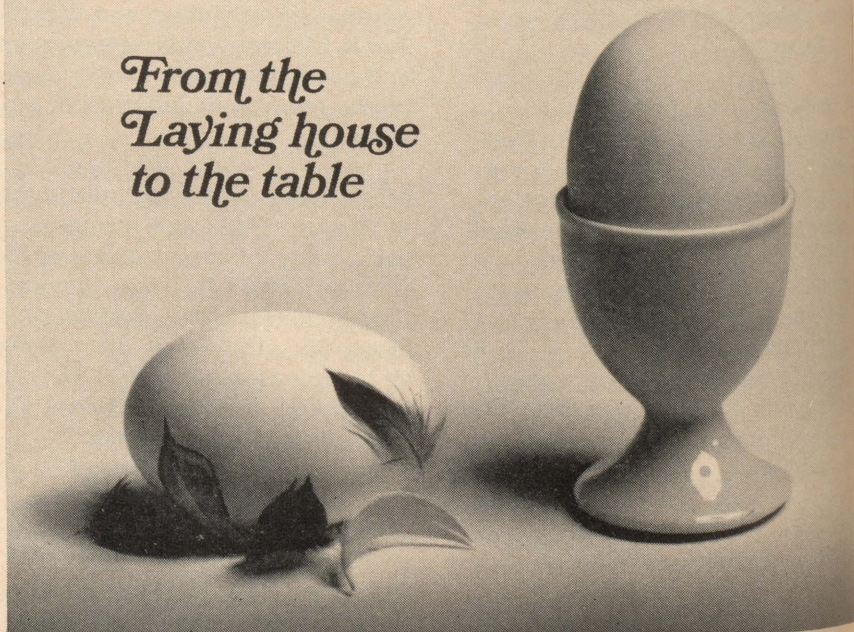
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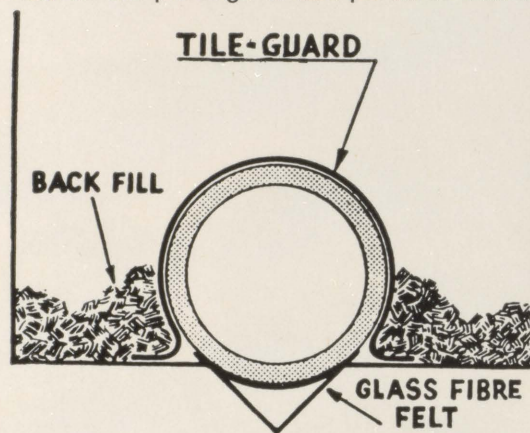
Hebert of the Institute of
nology at St. Hyacinthe acted
chairman for the meeting. Mr.
hilton Marshall thanked the
akers on behalf of all present
a most interesting and
ructive meeting. A social time
owed, with refreshments served
he W.I.

y-seven attended this meeting,
ost gratifying fact, which proves
we do need an apple growers
ting in English. The W.I. of
otsford hopes to repeat this
project in 1972.

ordial vote of thanks goes to
. Fred Crossfield who arranged
program for the evening, and
Mrs. B. A. Rowell who with
er W.I. members attended most
iently to all other details in
ing this event an unqualified
cess.

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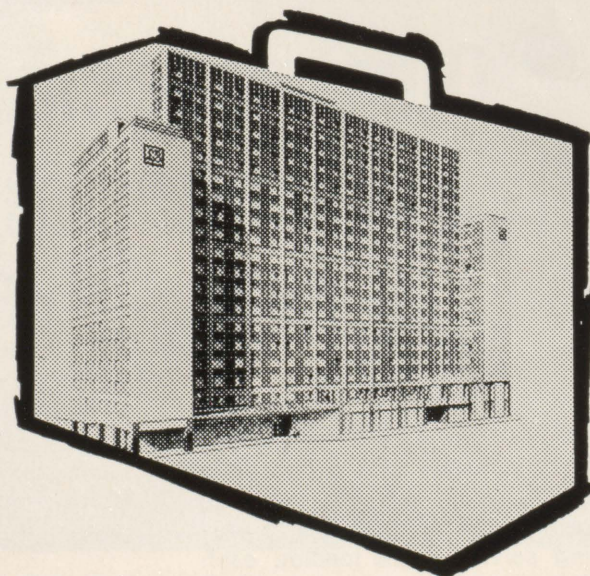
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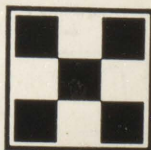
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